

**Computer Games Development**

**TDD**

**Year IV**

## 

**Jack Fennell**

**C00220386**

### **Contents**

[**Game Architecture**](#_omzysf7kb550) **3**

[**Features**](#_2ppywl14o75k) **3**

[**CRC Cards**](#_pkcmshy604as) **3**

[**References**](#_yd8pbwo88cwa) **4**

### 

### 

### **Game Architecture**

### **Features**

Feature: Player

Tasks:

1. Create a player character that is a square based object controlled by the player of the game using an input from the keyboard. Pressing the space key will result in the player jumping a set height with gravity bringing it back down to the ground object.
2. Moves along the ground object automatically to replicate the behaviour of the character in Geometry Dash at a set speed moving right along the ground.
3. Give the player an image asset to help differentiate it from the other game objects.

Feature: Obstacle

Tasks:

Feature: Ground

Tasks:

Feature: Neural Network

Tasks:

Feature:

Tasks:

### 

### **CRC Cards**

|  |
| --- |
| Class Name : |
| Subclasses : |
| Superclasses: |

|  |  |
| --- | --- |
| Responsibilities: | Collaborators: |
|  |  |
|  |  |
|  |  |
|  |  |

### 

|  |
| --- |
| Class Name : |
| Subclasses : |
| Superclasses: |

|  |  |
| --- | --- |
| Responsibilities: | Collaborators: |
|  |  |
|  |  |
|  |  |
|  |  |

### **References**

|  |  |  |
| --- | --- | --- |
| **Referenced Publication** | **Citation** | **Reference** |
| Report | (Simon D. Mikulcik  2016) | Simon D. Mikulcik  Application of Neural Networks for Intelligent Video Game Character Artificial Intelligences |
| Report | (J Mänttäri and  J Larsson.  October 2011) | J Mänttäri and J Larsson.  Applications of Artificial Neural Networks in Games;  An Overview. |
| Website | (Collection of Authors) | Multiple Authors 2005. Artificial Bee Colony (ABC) Algorithm. (URL https://abc.erciyes.edu.tr/index.htm)  (Accessed 23 October 2019). |
| Report | (Zhamri Che Ani, Azman Yasin,  Mohd Zabidin Husin and Zauridah Abdul Hamid  2010) | Zhamri Che Ani, Azman Yasin, Mohd Zabidin Husin  and Zauridah Abdul Hamid.  A Method for Group Formation Using Genetic  Algorithm |
| Report | ([Partha Pratim Sarangi](https://www.researchgate.net/profile/Partha_Sarangi), [Abhimanyu Sahu](https://www.researchgate.net/profile/Abhimanyu_Sahu3) and [Madhumita Panda](https://www.researchgate.net/profile/Madhumita_Panda). 2014) | [Partha Pratim Sarangi](https://www.researchgate.net/profile/Partha_Sarangi), [Abhimanyu Sahu](https://www.researchgate.net/profile/Abhimanyu_Sahu3) and [Madhumita Panda](https://www.researchgate.net/profile/Madhumita_Panda).  Training a Feed-Forward Neural Network Using Artificial Bee Colony with Back-Propagation Algorithm |
| Website | (Garych 2020) | Garych  How to Compare Machine Learning Algorithms. |

### 